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MAR 5 1932

# ARCO

RADIATOR

**ENCLOSURES** 

AMERICAN RADIATOR COMPANY

A. I. A. File No. 30C41

# ARCO

### RADIATOR ENCLOSURES

Designed for

Recessed and Concealed Radiation

Corto

Arco



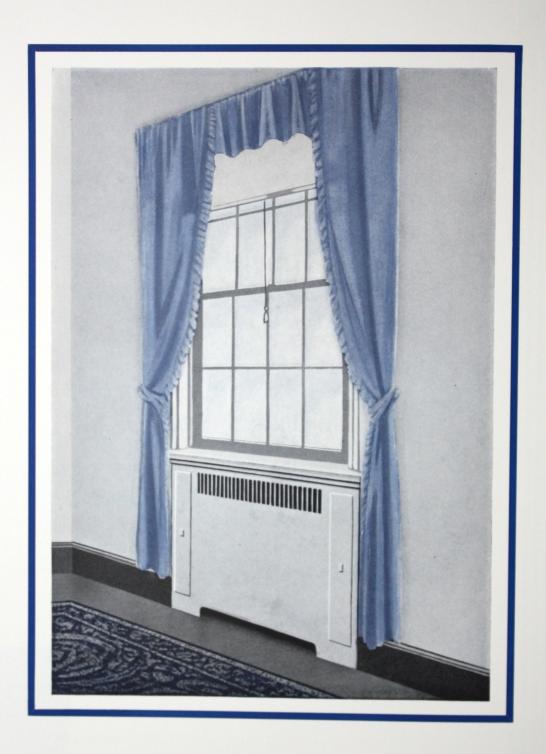
Fantom Murray Radiators

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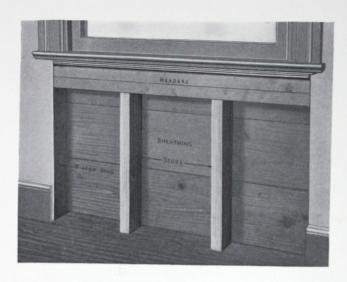
# ARCO RADIATOR ENCLOSURES

For flush-with-wall or slightly projected treatment, Radiation concealed, semi-concealed or framed only

ECAUSE of the growing demand for recessed and concealed radiation, and the consequent demand for enclosures for such radiation, we submit herewith several enclosure treatments which, we believe, will cover the fundamental requirements of this demand.

These requirements may be summed up in a few words. First, radiator enclosures must be artistically designed to blend into and harmonize with various interior treatments . . . they must be easily installed . . . allow for easy radiator regulation and ready accessibility for cleaning . . . they must provide for the greatest amount of useful heat output from the radiator . . . and they must be capable of retaining all these qualities under practical usage for a lifetime of service if desired.

Arco Radiator enclosures answer each requirement and they are now available in a variety of models with modifications to answer individual needs and tastes. Further modifications can be worked out, if desired, catering to special requirements and conditions.



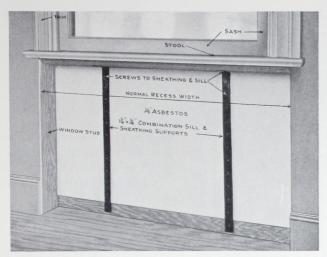
This photograph illustrates standard header and stud construction under window. It is recommended that this construction be eliminated in order to advantageously recess radiator under window.

N ORDER to obtain the maximum height and the resulting maximum amount of radiation for concealed or recessed treatment under window sills in frame or similar construction, we recommend that the 2" x 4" headers ordinarily used under sill, be eliminated. By doing this, the space ordinarily lost by pitch of sill and sacrificed to headers can be utilized for radiation, permitting higher radiators to be used with the resulting greater heat output. As the studding under window is also eliminated, the entire space under window sill is available for radiation.

If additional support for sill and outside sheathing is desired, iron supports \(^{1}\frac{1}{4}\)" thick, as shown in the illustration on page 5, may be screwed to sheathing and sill; or some other equally effective method may be used.

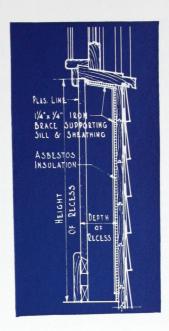
The use of iron support is primarily suggested where it is desirable to conserve as much depth as possible for radiation. Where 6" studs are used, where insulating material is used back of plaster, where wall is furred more than normally, where thick baseboard is used and enclosure front flush with baseboard, or where enclosure depth is adequate, 2 x 4 studs placed flat against sheathing may be used as equivalent support to sheathing and sill. Combination iron supports will be furnished, if desired.

In masonry construction, where the wall is recessed under window for the radiator, additional support for window frame may be obtained by using an angle iron under the sill at back of recess, thus leaving the entire space under the sill available for radiation.



Patent Pending

Illustrating elimination of headers and studding under window and substitution of asbestos insulation and iron combination sill and sheathing supports. The recess is now ready to receive radiator. (See alternative treatment with lining.)



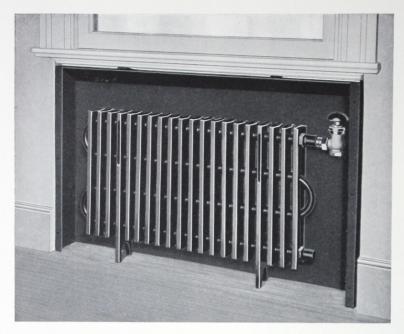
#### INSULATION

N ORDER to minimize heat loss we recommend that asbestos insulating board (½" minimum), be applied to sheathing at back of

recess and to underside of sill. Iron combination sheathing and sill supports shown above may then be screwed in place.

Illustrating recess equipped with metal lining ready to receive radiator. (See alternative treatment without lining.)





Illustrating Murray Radiator with same end connections installed in metal lined recess. (Arco Radiator may be used in this recess.)

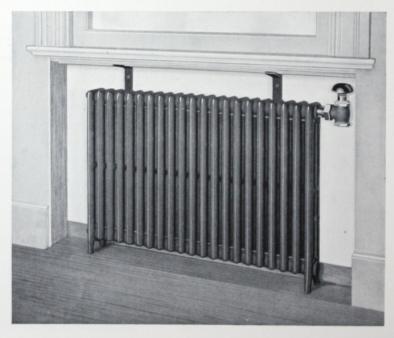
4" Murray, 4" wide 20½" high with legs 20 sections 32½" long 28 sq. ft.

"MURRAY" RADIATOR

"ARCO" RADIATOR

Illustrating Arco Radiator with asbestos insulation but without metal lining. (Murray Radiator may be used in this recess.)

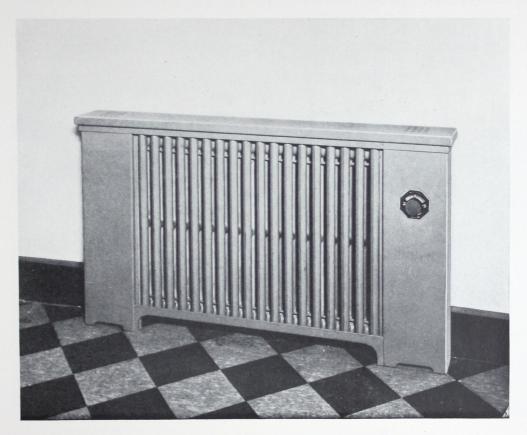
Three tube Arco 3½" wide 22" high, 21 sections 31½" long, 28 sq. ft.



### ARCO RADIATHERM

installed on

ARCO RADIATOR WITH TYPE "OK "ENCLOSURE



THE ARCO RADIATHERM is a simple combination of thermostat and valve for automatically and independently controlling the steam supply to each radiator on two-pipe steam, vapor or vacuum systems. The illustration above shows the Type OK Enclosure with No. 225 Remote Control Radiatherm. The No. 225 and No. 226 are for all types of radiation, cast iron or non-ferrous—either with or without enclosures. As long as an adequate heating system is in operation individual room warmth is constantly maintained at whatever temperature may be desired. No matter what the weather outside, the Arco Radiatherm does its work automatically and efficiently without any attention whatever.

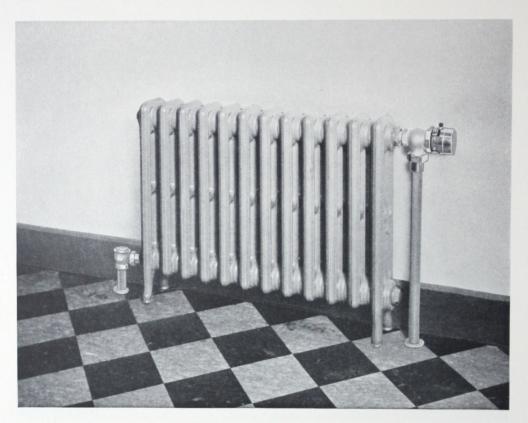
Radiatherm No. 230 for direct connection to cast iron radiators is described on the next page.

Write for descriptive printed matter

### ARCO RADIATHERM

installed on

CORTO RADIATOR WITHOUT ENCLOSURE

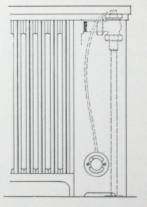




Standard Radiatherm No. 230 for direct connection to radiator.

Remote Control for connection inside or outside of enclosures.

THE ARCO RADIATHERM No. 230 for cast iron radiators, either with or without enclosures, is installed as easily as an ordinary radiator valve. It is connected horizontally with the inlet to the supply riser and the outlet to either the upper or lower tapping of the radiator.



Remote control type No. 225 is connected with the thermostatic bulb inside the enclosure. Remote control type No. 226 is connected with thermostatic bulb outside the enclosure.

Adjustments are provided on all types to maintain the desired temperature under various installation conditions. For all two-pipe steam, vapor and vacuum jobs—furnished in 12°, 34° and 1" sizes.

Write for descriptive printed matter

#### WIDTH OF RECESS

HERE double hung windows are used, the window studs, according to standard practice, are 6" further apart than the width of sash.

Where wood casement windows are used, the window studs, according to standard practice, are 4" further apart than the width of sash.

By adding 6" for double hung windows, and 4" for casement windows to the width of sash the

distance between window studs is obtained, which gives the maximum desirable width of recess for a given sash. Recess may be wider than required for radiator and valves in concealed treatment. It should be the exact width for radiator and valve in framed treatment.

The following table may be of assistance in determining quickly the maximum number of sections, or length of radiator for a given sash width:

TARIE OF RADIATOR	SECTIONS IN RELATION	TO RECESS WIDTHS	CONCEALED TREATMENT

Width of Sash	Recess Width Between Window Studs		Width	Corto		Arco		Murray 3" and 4" Flues		Murray 65%" and 85%" Flues	
	Double Hung	Case, ment	Recess	No. of Sec- tions	Extra for Valves	No. of Sec- tions	Extra for Valves	No. of Sec- tions	Extra for Valves	No. of Sec- tions	Extra for Valves
2'-0"	2'-6"	2'-4" 2'-6"	2'-4"	7 8	10½" 10"	12 13	10" 10½"	10 10	$10\frac{1}{2}$ " $12\frac{1}{2}$ "	10 10	10" 12"
2'-4"	2'-10"	2'-8"	2'-8"	8	12"	14	11"	12	111/2"	12	11"
2'-6"	3'-0" 3'-2"	2'-10" 3'-0"	2'-10" 3'-0"	9 10	11½" 11"	16 17	10" 10½"	14 14	$10\frac{1}{2}''$ $12\frac{1}{2}''$	14 14	10" 12"
2'-10"	3' 4"	3'-2"	3'-2"	11	101/2"	18	11"	16	111/2"	16	11"
3'-0" 3'-2"	3'-6"	3'-4" 3'-6"	3'-4" 3'-6"	12 12	10″ 12″	20 21	10" 10½"	18 18	$10\frac{1}{2}$ " $12\frac{1}{2}$ "	18 18	10" 12"
3'-4"	3'-10"	3'-8"	3'-8" 3'-10"	13 14	111/2"	22 24	11"	20 22	11½" 10½"	20 22	11" 10"
3'-6" 3'-8"	4'-0" 4'-2"	3'-10" 4'-0"	4'-0"	15	101/2"	25	101/2"	22	121/2"	22	12"
3'-10" 4'-0"	4'-4"	4'-2"	4'-2"	16 16	10" 12"	26 28	11"	24 26	$11\frac{1}{2}''$ $10\frac{1}{2}''$	24 26	11" 10"
4'-2"	4'-8"	4'-6"	4'-6"	17	111/2"	29	101/2"	26	121/2"	26	12"
4'-4"	4'-10" 5'-0"	4'-8"	4'-8"	18 19	11"	30 32	11" 10"	28 30	11½" 10½"	28 30	11" 10"
			5'-0"	20	10"	33	101/2"	30	1212"	30	12"

Note: Modifications in the above table may be made to suit conditions.

#### DEPTH OF RECESS

N DETERMINING the depth of radiator and the type of enclosure adaptable for a given recess, or in designing a recess for a certain depth of radiator and type of enclosure, the following may be of assistance:

With a  $3\frac{3}{4}''$  stud, and  $3\frac{4}{4}''$  plaster and enclosure front setting against face of plaster, only  $4\frac{1}{2}''$  is available for insulation, lining, radiator and air circulation. With  $3\frac{3}{4}''$  stud,  $3\frac{4}{4}''$  plaster and  $7\frac{1}{8}$  baseboard, and enclosure front approximately flush with baseboard, approximately  $5\frac{3}{8}''$  is available for insulation, lining, radiator and air circulation. More depth is available where wider studs are used, where insulating material is used

back of plaster, where wall is furred more than normally, or where thicker baseboard is used.

We recommend at least  $\frac{1}{2}$ " of insulation,  $\frac{1}{2}$ " of space between insulation and radiator and  $\frac{1}{2}$ " space between radiator and enclosure front. (With AD and AG type, radiator is flush with face of enclosure.)

These conditions and spacings can be modified somewhat where necessary with slight change in radiator output. In general, better results will be obtained where the recess is designed to suit the radiator than where the radiator is an after thought.

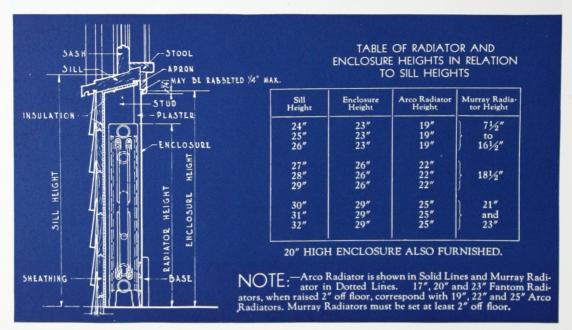
Finished flooring should be carried into recess.

#### HEIGHT OF RECESS AND ENCLOSURE

IFFERENT height enclosures are furnished for different radiator heights. The distance between the top of the enclosure front and the bottom of the window stool is taken care of by varying width of window apron. For example, a 22" Arco has a 26" enclosure front. The bottom of the window stool for a 28" high sill is approximately 28½". This difference, therefore, would be taken care of by a 2½" window apron. The same radiator and enclosure would be used for a 27" or 29" sill by using a 1½" or 3½" apron. If wider apron is desired or the presence of a header under sill makes wider apron necessary, lower radiator and enclosure front may be used.

For instance, a 19" radiator may be substituted for 22", etc., increasing apron width 3". The following table is worked out to allow the maximum radiator height and resulting maximum radiation for each sill height. Apron may be rabbeted so that it will slightly overlap top of enclosure. This may obviate planing and fitting on job and hide joint between top of front and bottom of apron. In this case the aprons mentioned above could be approximately \frac{1}{4}" wider than the figures shown.

The enclosure should be set before trim is applied so that baseboard, mouldings and apron may be properly fitted to enclosure.



#### UNIVERSAL VALVE ACCESS DOORS

ALVE access doors are located near the ends of enclosure fronts. Where undue valve space results from using a shorter radiator, the width of recess may be furred down to approximately  $5\frac{1}{2}$ " of each end of the radiator

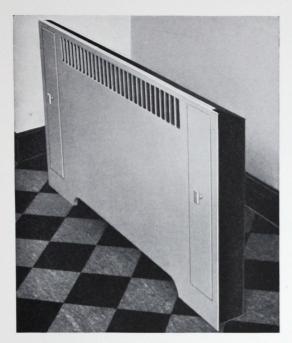
or in concealed treatment the valves may be brought nearer the end of the recess so that the access door shall be approximately opposite the valve. The doors lift out, furnishing access to valve at either end, top or bottom.

#### GRILLES

OP GRILLE as shown has perforated openings 33/4" high, and bottom of enclosure or baseboard has cut out 2" high. Bottom grilles

can be substituted for cut-out strip at slight additional cost. Optional grille with  $\frac{3}{4}$ " square piercings as shown on page 18 can be furnished.

#### LINING



Lining can be furnished, if desired, with the fronts shown herein. They are provided with holes for nails or screws into studding and with flanges at each end with holes therein to receive screws through front. Where linings are used, front is fastened to lining by machine screws and nuts. Where lining is not used, front is held by wood screws to  $V_8$ " board nailed to studding at each end of recess. (In concealed treatments.)

It is recommended that insulation be used back of lining.

Linings are made in four heights—1934", 2234", 2534" and 2834", and every 2" in width—29½", 31½", 33½",

They are 4" in depth unless otherwise specified, but may be had in  $4\frac{1}{2}$ " and  $5\frac{1}{2}$ " depths.

Specify height and width of lining.

#### GENERAL INFORMATION

THE ENCLOSURES are adapted for under window treatment or recessed wall treatment.

The trim should be applied after enclosure

front is in place. The apron should be fitted to take up the space between top of enclosure front and underside of stool.

Vertical moulding may run from baseboard to apron at ends of front.

Universal hand holes are provided for access to valves, and lift doors conceal hand holes and fastening method and provide ornamental panel.

Corner valves or extension valves may be used where conditions permit and hand holes and lift doors omitted.

Air inlet as shown is recommended although bottom grilles can be furnished if desired.

For concealed treatment we suggest painting black, the top of radiator and the back of the recess near the top to minimize visibility through grille.

Linings as shown above can be furnished with fronts, if required.

In planning for, specifying or ordering fronts or enclosures the following should be borne in mind:—

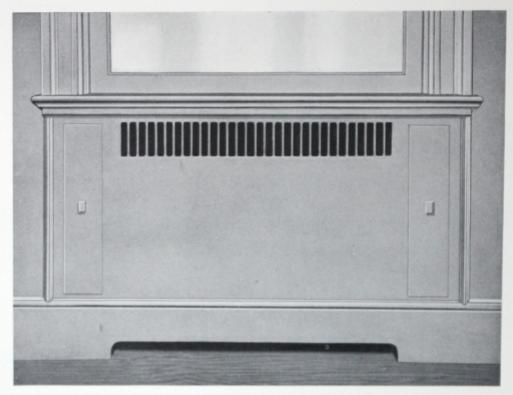
Recess for Types AA, AB and AC fronts should be one inch less in width than front, and recess; for Types AD, AE and AG fronts should be the same width as assembled front.

The height of recess at front should be greater than height of radiator plus 4". The depth of recess should be sufficient to accommodate radiator and insulation and provide air circulation.

If linings or iron combination supports are required it should be so stated.

Enclosures are furnished primed.

#### « « TYPE AA » »



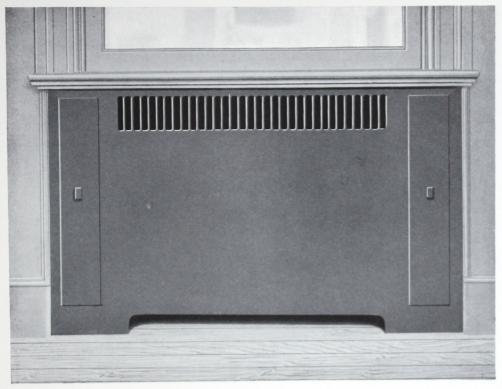
Patent Pending

WHERE desirable to have continuous baseboard, Type AA is recommended. The front rests on baseboard, overlaps the recess in width  $\frac{1}{2}$ " at each end, resting against face of finished plaster. It is flanged to provide necessary stiffness. The baseboard moulding is continuous across front. The baseboard is cut out 2" high for air inlet and of a length equal to two sections less than length of radiator. Screws underneath lift doors are used for holding front. A board, nailed to studding at each end of recess, is suggested to receive screws, unless lining is used. It takes same lining as non baseboard types.

Fronts are made in four heights—15", 18", 21" and 24" (being designed to set on 5" high baseboard), and every 2" in width—31", 33", 35", etc., being 1" wider than corresponding recess.

Specify height and width of enclosure front.

#### « « TYPE AB » »



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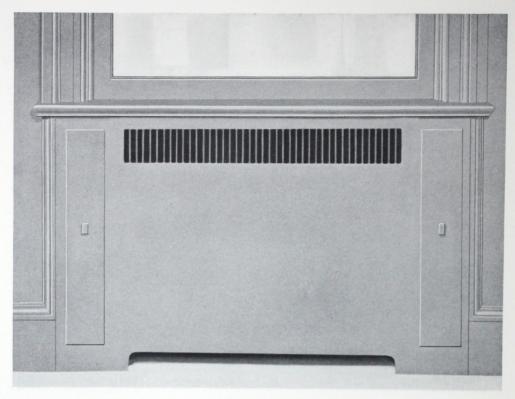
Type AB is recommended where it is desirable to have front extend to floor and be flush with face of plaster. It overlaps recess in width—
1/2" at each end—resting against face of finished plaster. It is flanged to provide necessary stiffness. The baseboard may be bevelled to meet this front or vertical moulding used for this purpose.

Screws underneath lift doors are used for holding front. A board, nailed to studding at each end of recess, is suggested to receive screws, unless lining is used.

Fronts are made in four heights—20", 23", 26" and 29", and every 2" in width 31", 33", 35", etc., being 1" wider than corresponding recess.

Specify height and width of enclosure front.

#### « TYPE AC (1/8" FLANGE) ;



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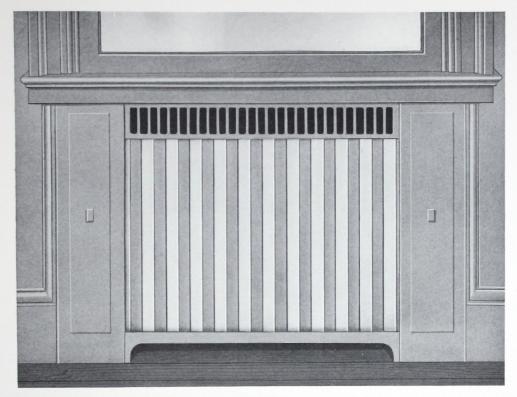
YPE AC has an advantage over Types A and B in that it is designed to be approximately flush with baseboard instead of plaster and may allow more radiation, better circulation, or better insulation. It overlaps recess in width—1/2" at each end—resting against face of plaster. It is flanged for stiffness, and to bring the front approximately flush with baseboard. The baseboard may be brought up against the return flange of the enclosure front. The apron should be a little thicker than baseboard so as to overhang front. Screws underneath lift doors are used for holding front. A board, nailed to studding at each end of recess, is suggested to receive screws, unless lining is used.

Fronts are made in four heights—20", 23", 26" and 29", and every 2" in width 31", 33", 35", etc., being 1" wider than corresponding recess.

Specify height and width of enclosure front.

Note: This type enclosure can be furnished with deeper flange where recess is not deep enough to provide sufficient radiation. In such cases apron and stool should project beyond face of enclosure front.

#### « « TYPE AD (FOR FANTOM) » »



Patent Pending

YPE AD is designed primarily for Fantom and Arco recessed radiation with front of radiator exposed to room for radiant heat and is a very efficient treatment. It sets against the face of the radiator, forming an attractive frame.

It is adjustable in depth, the flanges on the ends engaging spring clips fastened to studs. The front of the radiator may be set flush with plaster or flush with baseboard. Extended stool and apron is shown, but is extended only where necessary.

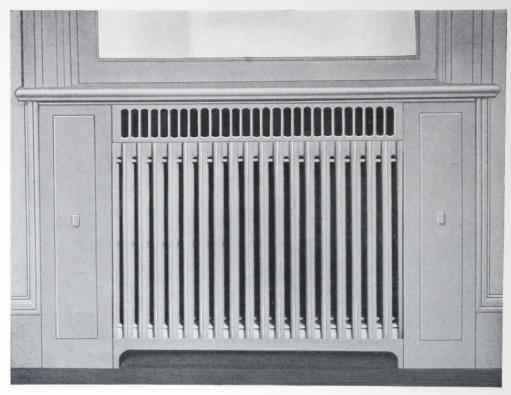
The front occupies the full width of recess and is slightly adjustable in width. The top grille and bottom cut-out strip fit firmly into spring fasteners in side members.

Fronts are made in four heights—20", 23", 26" and 29", and are designed to assemble 11" wider than corresponding radiator, recess to be of like width.

Radiator must be centered in recess and valve space made  $5\frac{1}{2}$ " at each end so that side panel which is  $6\frac{1}{2}$ " wide, will cover valve space and slightly overlap radiator.

Specify height and assembled width of enclosure front.

#### « TYPE AD (FOR ARCO)



Patent Pending

TYPE AD is designed primarily for Fantom and Arco recessed radiation with front of radiator exposed to room for radiant heat and is a very efficient treatment. It sets against the face of the radiator, forming an attractive frame.

It is adjustable in depth, the flanges on the ends engaging spring clips fastened to studs. The front of the radiator may be set flush with plaster or flush with baseboard. Extended stool and apron should be used if front is brought out.

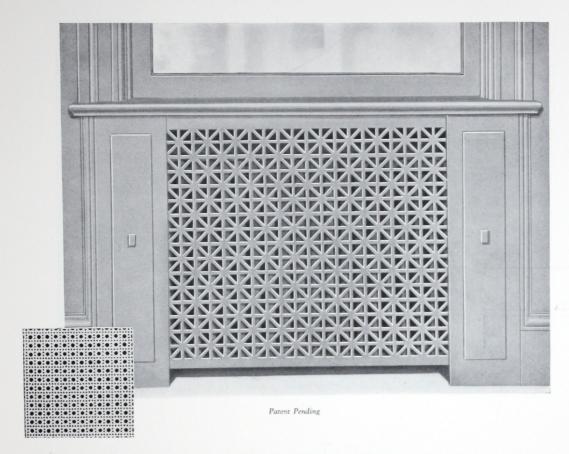
The front occupies the full width of recess and is slightly adjustable in width. The top grille and bottom cut-out strip fit firmly into spring fasteners in side members.

Fronts are made in four heights—20", 23", 26" and 29", and are designed to assemble 11" wider than corresponding radiator, recess to be of like width.

Radiator must be centered in recess and valve space made  $5\frac{1}{2}$ " at each end so that side panel which is  $6\frac{1}{2}$ " wide, will cover valve space and slightly overlap radiator.

Specify height and assembled width of enclosure front.

#### « « TYPE AE » »



TYPE AE is recommended where it is desirable to compromise between concealed radiation and radiant heat. The end pieces are adapted to receive ornamental front panel. It is an attractive combination of radiated and convected heat. It is adjustable for depth of recess and provides slight adjustment for width.

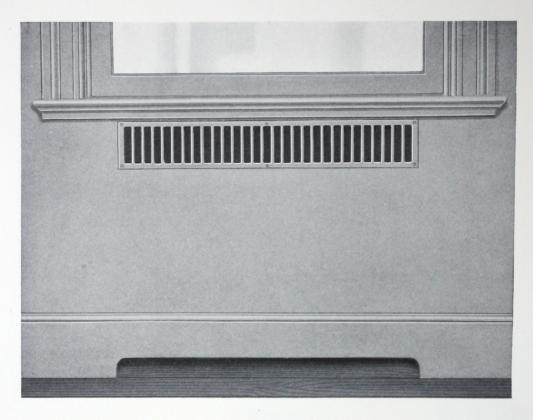
Fronts are made in four heights—20", 23", 26" and 29", and are designed to assemble 11" wider than corresponding radiator, recess being of like width.

Spring clips fastened to stude engage flanges on the front.

Specify height and assembled width of enclosure front and panel pattern.

Furnished in Union Jack or Cane patterns

« « TYPE AF »

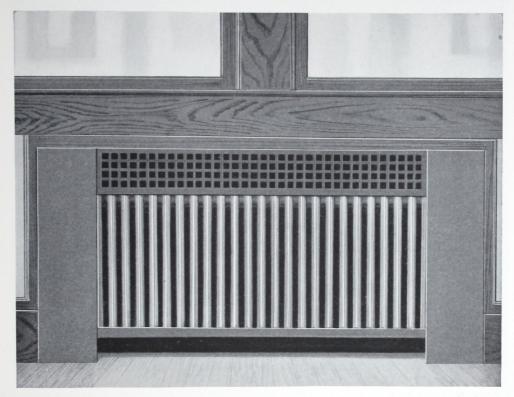


Type AF treatment shows plaster carried across front of recess. Baseboard and baseboard moulding are continuous across recess and baseboard is cut out 2" high for air inlet and of a length equal to two sections less than length of radiator. Top grille overlaps opening in plaster. Corner valve may be used with valve stem projecting through hole in plaster and valve handle applied outside of plaster. Lining can be furnished to frame and support grille and with holes in front of lining for wiring lath.

Enclosures are made in four heights—20", 23", 26", 29" and every 2" in width  $29\frac{1}{2}$ ",  $31\frac{1}{2}$ ",  $33\frac{1}{2}$ ", etc., and 4",  $4\frac{1}{2}$ ",  $5\frac{1}{2}$ ", etc., in depth.

Specify height, length and depth.

#### « « TYPE AG » »



Patent Pending

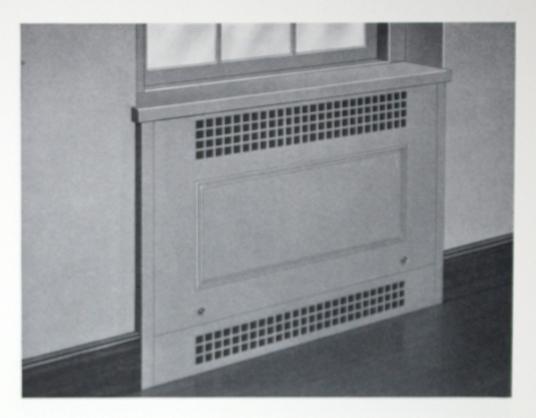
Type AG enclosure is adapted for Fantom or Arco recessed radiation with front of radiator exposed to room for radiant heat. The doors may be opened to give access to radiator valves, traps, etc., springs holding doors in sockets and returning doors to their original positions.

Doors are furnished in four heights—20", 23", 26", 29", four inches higher than corresponding radiator and are  $6\frac{1}{2}$ " wide, valve space at ends of radiator should be  $5\frac{1}{2}$ " so that doors will cover valve space and rest against face of radiator. Wood moulding is here shown between top of enclosure and apron. Wider apron can be used and moulding eliminated, or where header under sill is eliminated higher enclosure front and radiator may be used with narrower apron.

Specify height and assembled width of enclosure front. (The latter should be 11" wider than radiator.)

#### HEAVY TYPE

Adapted for Apartment Houses, Hotels and Office Buildings



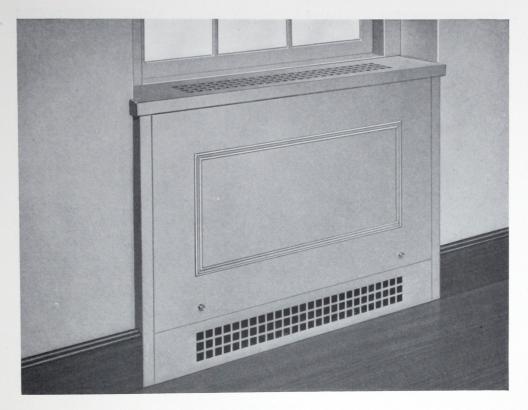
TYPE HA .

(FRONT OUTLET GRILLE)

THIS type is recommended where concealed radiation is desired. End channels are fastened to stool, which in turn is fastened to window frame. Bottom grille strip is fastened to end channels, making rigid frame which is preferably set before finished flooring and plastering. Front is removable for access to radiator, valves, traps, etc. Modifications can be made to suit conditions and requirements.

#### HEAVY TYPE

Adapted for Apartment Houses, Hotels and Office Buildings

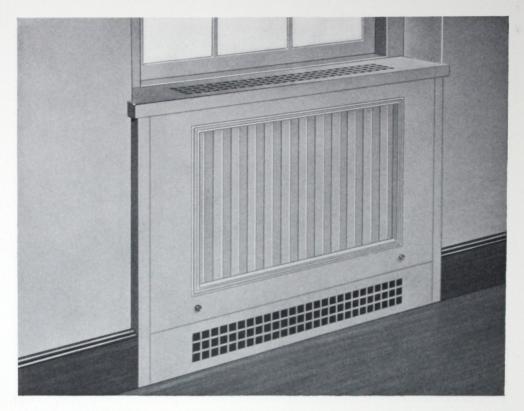


« TYPE HB
(STOOL OUTLET GRILLE)

THIS type is recommended where concealed radiation is desired. End channels are fastened to stool, which in turn is fastened to window frame. Bottom grille strip is fastened to end channels, making rigid frame which is preferably set before finished flooring and plastering. Front is removable for access to radiator, valves, traps, etc. Modifications can be made to suit conditions and requirements.

#### HEAVY TYPE

Adapted for Apartment Houses, Hotels and Office Buildings

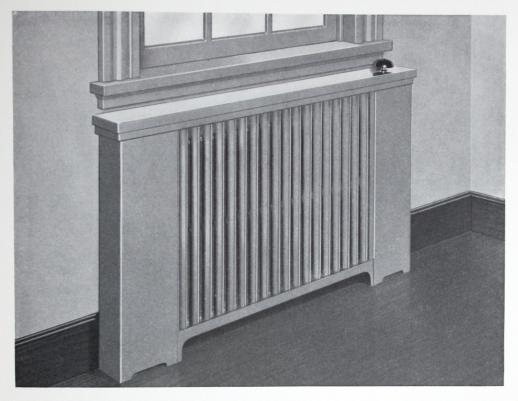


TYPE HD
(FOR FANTOM)

THIS type is recommended where it is desirable to have the radiation surface exposed to rooms, give effect to radiant heat. It is an efficient treatment and attractively framed. Otherwise this type is more or less similar to types HA and HB.

#### UNIVERSAL TYPE

For use in any type construction



Patent Pending

#### TYPE OK

THIS photograph illustrates the Arco Radiator free standing with frame enclosure. The Arco Radiator being only 31/2" or 43/4" deep, of sturdy construction and attractive design is admirably adapted for use in the open, either set against blank wall or preferably against wall under window. This treatment need not be confined to width of window but can be shorter or longer depending upon heating requirements. No recess construction is required, no measurements, no engineering details are necessary and enclosure and installation costs are reduced to a minimum. The enclosure is "slideably" and rigidly attached to radiators in a few seconds, no screws or other fastening being necessary.

It is attractive in appearance and has a large useful heat output. It is made in two depths (35/8'', 47/8''), four heights (171/2'', 201/2'', 231/2'', 261/2'') and every 11/2'' in length (31'', 321/2'', 34'', etc.). The valve space is 5'' at each end and the stool overhangs enclosure 1/2'' at each end and 1/2'' in front and is 11/2'' higher than radiator.

Specify size of radiator.

# ADAPTATION OF FRONTS AND LININGS TO "MURRAY" RADIATORS

Fronts types AA, AB, AC and AF with linings as illustrated previously may be used to form "cabinets" for recesses. Linings do not have to be used, but the complete cabinet usually is preferable.

## SELECTING "MURRAY" RADIATORS AND ENCLOSURES FOR VARIOUS RECESS SIZES

"Murray" radiators for steam, hot water, and vapor can be used in any of the above types of enclosure.

In selecting sizes of radiators, care should be taken to see that sufficient space is allowed for valves, traps, etc., so that the total length of the radiator, valve, and trap, or elbow is not too long for the enclosure.

Some heights of "Murray" radiators have top and bottom opposite end connections, and other heights have top and bottom same end connections, and this condition should be considered in determining the total length of the radiator to be used in the enclosure.

Heights of "Murray" radiators as shown in the Murray radiator catalogue do not include legs. Therefore, the height of the legs must be added to the height of the radiator in determining the total height of the radiator in the enclosure. This total height must not be higher than the lower edge of the outlet grille.

# COVERS FOR "MURRAY" EXPOSED BATHROOM RADIATORS

Covers for "Murray" bathroom radiators are small type A covers, manufactured to fit  $3\frac{1}{2}$  square foot and 5 square foot exposed bathroom radiators.

They have top discharge grilles and enclose radiators only.

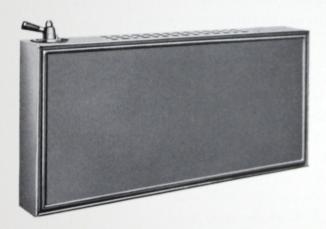
It is not necessary in selecting "Murray" radiators with enclosures to have the total height of the radiator as high as the lower edge of the outlet grille, and, therefore, lower radiator heights may be selected. And, it is recommended that where the space in the enclosure permits a choice of radiator sizes, preference should be given to the radiator of the greatest length to fit the total length of the enclosure, rather than to the radiator of greatest height.

#### COVERS FOR EXPOSED "MURRAY" RADIATORS

Where "Murray" radiators are exposed in the room, "Murray" covers, types A, B, and C, as shown in the Murray radiator catalogue, should be used.



Type A cover for installation under windows with top discharge grille and enclosing radiator only.



Type B cover for installation under windows with top discharge grille and enclosing radiator and valve and trap.



Type C cover for installation on blank wall with front discharge grille and enclosing radiator only.

"Murray" covers are furnished only with a priming coat of paint.

#### BRANCH OFFICES AND SHOWROOMS

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